WHAT IS CLAIMED IS:

1. A CMP slurry comprising:

a solvent;

abrasive grains; and

a silicone-based surfactant having an HLB value ranging from 7 to 20.

2. The CMP slurry according to claim 1, wherein said silicone-based surfactant has an HLB value ranging from 10 to 17.

3. The CMP slurry according to claim 1, wherein said silicone-based surfactant comprises at least one copolymer selected from the group consisting of polyoxyethylene/methylpolysiloxane copolymer, poly(oxyethylene/oxypropylene) methylpolysiloxane copolymer, polyoxyethylene alkylpolysiloxane/polyoxypropylene alkylpolysiloxane/dimethylpolysiloxane copolymer, and methylpolysiloxane/alkylmethylpolysiloxane/poly(oxyethylene/oxypropylene) methylpolysiloxane copolymer.

4. The CMP slurry according to claim 1, wherein the content of said silicone-based surfactant is within the range of 0.001 wt% to 0.5 wt%.

5. The CMP slurry according to claim 1, further comprising resin particles.

6. The CMP slurry according to claim 5, wherein the content of said resin particles is within the range of 0.05 wt% to 1 wt%.

7. The CMP slurry according to claim 1, further comprising at least one component selected from the group consisting of an oxidizing agent, a chelate complexing agent and a non-silicone-based surfactant.

8. A method for manufacturing a semiconductor device comprising:

forming an insulating film above a semiconductor substrate;

forming a recessed portion in said insulating film;

depositing a conductive material inside said recessed portion and on said insulating film to form a conductive layer; and

removing the conductive material deposited on said insulating film by CMP using a CMP slurry to expose said insulating film, said CMP slurry comprising a solvent, abrasive grains and a silicone-based surfactant having an HLB value ranging from 7 to 20.

9. The method according to claim 8, wherein said silicone-based surfactant included in said CMP slurry comprises at least one copolymer selected from the group consisting of polyoxyethylene/methylpolysiloxane copolymer, poly(oxyethylene/oxypropylene) methylpolysiloxane copolymer, polyoxyethylene alkylpolysiloxane/polyoxypropylene alkylpolysiloxane/dimethylpolysiloxane copolymer, and methylpolysiloxane/alkylmethylpolysiloxane/poly(oxyethy

lene/oxypropylene) methylpolysiloxane copolymer.

10. The method according to claim 8, wherein the content of said silicone-based surfactant in said CMP slurry is within the range of 0.001 wt% to 0.5 wt%.

11. The method according to claim 8, wherein said CMP slurry further comprises at least one component selected from the group consisting of an oxidizing agent, a chelate complexing agent and a non-silicone-based surfactant.

12. The method according to claim 8, wherein said conductive layer is formed by successively depositing a barrier metal and Cu.

13. The method according to claim 8, wherein said insulating film is formed by forming a first insulating film having a relative dielectric constant of less than 2.5 and forming a second insulating film on the first insulating film, said second insulating film having a relative dielectric constant higher than that of the first insulating film.

14. A method for manufacturing a semiconductor device comprising:

forming an insulating film above a semiconductor substrate;

forming a recessed portion in said insulating film;

depositing a conductive material inside said recessed portion and on said insulating film to form

a conductive layer;

removing said conductive material deposited on said insulating film to expose said insulating film while selectively leaving said conductive layer deposited inside said recessed portion, thereby forming a buried wiring layer; and

treating surfaces of said buried wiring layer and of said insulating film by using a treating solution comprising a silicone-based surfactant having an HLB value ranging from 7 to 20 and dissolved in water.

15. The method according to claim 14, wherein said conductive layer is formed by successively depositing a barrier metal and Cu.

16. The method according to claim 14, wherein said insulating film is formed by forming a first insulating film having a relative dielectric constant of less than 2.5; and forming a second insulating film on the first insulating film, said second insulating film having a relative dielectric constant higher than that of the first insulating film.

17. The method according to claim 14, wherein said silicone-based surfactant in said treating solution has an HLB value ranging from 10 to 17.

18. The method according to claim 14, wherein said silicone-based surfactant included in said treating solution comprises at least one copolymer selected from the group consisting of

polyoxyethylene/methylpolysiloxane copolymer, poly(oxyethylene/oxypropylene) methylpolysiloxane copolymer, polyoxyethylene alkylpolysiloxane/polyoxypropylene alkylpolysiloxane/dimethylpolysiloxane copolymer, and methylpolysiloxane/alkylmethylpolysiloxane/poly(oxyethylene/oxypropylene) methylpolysiloxane copolymer.

19. The method according to claim 14, wherein the content of said silicone-based surfactant in said treating solution is within the range of 0.001 wt% to 1.0 wt%.

20. The method according to claim 14, wherein a polishing rate of said insulating film and said conductive layer by said treating solution is 10 nm/min or less.